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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,688	02/08/2002	Fumitake Yoshikawa	NEC 01FN071	2514
7590 01/28/2004				
Norman P. Soloway HAYES SOLOWAY P.C. 130 W. Cushing Street Tucson, AZ 85701		EXAMINER LIU, MING HUN		
		ART UNIT PAPER NUMBER		
		2675 3		
DATE MAILED: 01/28/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/072,688

Applicant(s)

YOSHIKAWA, FUMITAKE

Examiner

Ming-Hun Liu

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Drawings*

2. New corrected drawings are required in this application because figures 2A, 4A, 5A, 4B and 5B present information in an unclear fashion.

For figures with suffix A, the label of the y-axis is ambiguous. The figure can be interpreted in several different ways. Firstly, it seems from the figure that VC is assuming a constant DC value of 5V, which cannot be the case. Secondly, are the values for VA and VB relative to VC, for example VB is approximately 4V more than VC while VA is 4V less than VC. It is also suggested that the graphs for positive and negative polarity gamma corrections be presented separately in addition to the current combined form.

Fro figures with suffix B, the labeling and crossing of the two voltages make the figure difficult to understand. Firstly, it is unclear which is the signal voltage and which is the common voltage. Secondly, it is also unclear as to where VA and VB are actually applied.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable by US patent 4,789,223 to Kasahara et al.

In reference to claims 1 and 7, it can be seen from figure 5 of Kasahara that he teaches a general matrix liquid crystal display with scanning and driving lines and circuits (column 3, lines 45-61). Also included in his invention is a control circuit that creates the gradation data by inverting the polarity of the input during the driving of the data (column 3, lines 62-63). On column 6, lines 15-30 Kasahara teaches that the corrections supplied to the display will have positive/negative symmetry from the extremities of white and black gradations.

Kasahara teaches a display where the polarity of the input data is inverted. He does not elaborate much on gamma corrections, but acknowledges that gamma corrections also need to be adjustments due to the polarity switch (column 7, lines 13-16).

One skilled in the art could easily incorporate gamma correction by following Kasahara's suggestion of making OP and ON agree with the gamma correction values (column, lines 15-16).

It would have been obvious to implement gamma correction to improve the image signal as it is commonly done in the industry.

Claims 2-4 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara in view of US patent 5,751,267 to Sato et al.

In reference to claims 2-4 and 8-10, Kasahara demonstrates in the figure 5 an embodiment where the gamma correction relation is a straight line. Furthermore as discussed on column 7, lines 13-16, Kasahara teaches a case where these gamma correction values do not have a straight-line relation, a phenomenon that is well known in the art and exemplified in Sato's figures 7-10. As one skilled in art understands, Gamma correction can be made according to several different response patterns. It would have been obvious to one skilled in the art to implement a non-straight, curved, or polygonal line response pattern because as it is commonly practiced in the art to create a response curve that optimally corrects the display image.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara in view of US patent 5,365,284 to Matsumoto et al.

Matsumoto discloses a display that also uses polarity inversion to improve on image quality. Matsumoto teaches on column 6, lines 36- 42 that the polarity of the digit signals can be inverted using bit wise inversion. It would have been obvious to one skilled in the art to implement such a method of polarity inversion because of its extreme conventionality in producing inverted polarities.

### ***Conclusion***


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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Ming-Hun Liu



**STEVEN SARAS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**